

## REMARKS

### Interview Summary

Applicant acknowledges the telephone interview of July 20, 2005 in which the response to the restriction requirement was clarified. Applicant agreed to elect claim 1 and its progeny for further prosecution. This election was made without traverse.

Applicant also acknowledges the telephone interview of August 2, 2005 in which claim 1 was discussed in the context of *Rybicki*.<sup>1</sup>

Applicant explained that the claim recited analytically evaluating an inverse PERL transform and that the reference only disclosed numerically evaluating the inverse PERL transform.

The Examiner invited Applicant to file a response drawing attention to this distinction and in particular to the use of “analytically” on page 11 of the specification.

### Allowable subject matter

Applicant notes with appreciation the indication of allowable subject matter in claims 2-4. However, for reasons set forth below, Applicant submits that claim 1 is also allowable over the art of record.

### Section 102 rejection of claim 1

Applicant draws attention between the *numerical* evaluation of an inverse PERL transform, as disclosed by *Rybicki*, and the *analytical* evaluation of the inverse PERL transform, as recited in claim 1.

---

<sup>1</sup> *Rybicki, et al.* “Reconstruction Algorithm for Novel Ultrafast Magnetic Resonance Imaging, Vol. 10, 209-215 (1999).

*Rybicki* discloses only the numerical evaluation of the inverse PERL transform. For example, in part VI, on page 214, *Rybicki* refers frequently to numerical evaluation of the  $\Psi_m$  functions. In fact the last sentence of *Rybicki* states that “[f]urther evaluation of the PSF will depend on the development of an analytical expression for  $\Psi_m(\nu)$ .”

It was the absence of any such analytical expression that precluded analytic inversion of the PERL transform at the time of *Rybicki*. The present application now discloses a suitable analytic expression. This expression makes it possible to analytically, rather than numerically, invert the PERL transform. The resulting inversion is thus faster and more accurate than those hitherto available.

Applicant describes, beginning on page 11 of the specification, a particular analytic method that relies on “*M*-functions.” The properties of *M*-functions are described in detail on pages 11 and 12 of the specification.

Applicant notes that other families of functions yet to be discovered may have properties similar to those of the *M*-functions and may therefore be used to analytically invert the PERL transform.

Applicant submits that the claimed method, which includes “analytically evaluating an inverse PERL transform of the two-dimensional spin density”, is patentably distinct from *Rybicki*, which discloses only the numerical inversion of a PERL transform. Accordingly, Applicant requests reconsideration and withdrawal of the section 102 rejection of claim 1.

Now pending in this application are claims 1-4, of which claim 1 is independent. No additional fees are believed to be due in connection with the filing of this response. However, to the extent fees are due, or if a refund is forthcoming, please adjust our deposit account 06-1050, referencing attorney docket “05311-025001.”

Applicant : Mirko I. Hrovat et al.  
Serial No. : 10/806,985  
Filed : March 22, 2004  
Page : 4 of 4

Attorney's Docket No.: 05311-025001 / BWH #892

Respectfully submitted,

Date: August 3, 2005



Faustino A. Lichauco  
Reg. No. 41,942

Fish & Richardson P.C.  
225 Franklin Street  
Boston, MA 02110  
Telephone: (617) 542-5070  
Facsimile: (617) 542-8906

21138911.doc